

## Claims

1. A control device for a vehicle AC generator comprising a stator coil, a field coil, a rectifying circuit connected to the stator coil, and a voltage control circuit that performs shutdown of and energization with a field current flowing through the field coil in accordance with an output voltage of the rectifying circuit and that controls the output voltage of the rectifying circuit to a substantially constant level, characterized in that

the voltage control circuit has

a first active switch having its one end connected to one end of the field coil and having its other end connected to a negative output terminal of the rectifying circuit,

a second active switch having its one end connected to a positive output terminal of the rectifying circuit and having its other end connected to the other end of the field coil,

a first passive switch connected between the negative output terminal of the rectifying circuit and a connecting point of the second active switch and the field coil, and

a second passive switch connected between the positive output terminal of the rectifying circuit and a connecting point of the first active switch and the field coil, and

the first and second active switches are on/off-controlled independently of each other.

2. The control device for the vehicle AC generator as

claimed in claim 1, characterized in that one of the first and second active switches is constantly on and the other active switch is turned on and off in accordance with the output voltage of the rectifying circuit.

3. The control device for the vehicle AC generator as claimed in claim 2, characterized in that the other active switch shuts down the field current when the output voltage of the rectifying circuit is higher than a first predetermined voltage, while the other active switch controls energization with the field current when the output voltage of the rectifying circuit is lower than the first predetermined voltage, thus controlling the output voltage of the rectifying circuit to a substantially constant level, and

when the output voltage of the rectifying circuit is higher than a second predetermined voltage that is higher than the first predetermined voltage, the another active switch is turned off.

4. The control device for the vehicle AC generator as claimed in any one of claims 1 to 3, characterized in that the first and second active switches are connected to the field coil via brushes and slip rings.

5. The control device for the vehicle AC generator as claimed in any one of claims 1 to 4, characterized in that the first and second active switches are transistors and the first and second passive switches are diodes.